

Claims

1. A polypeptide, characterized in that it comprises one or more amino acid sequences of cell attachment motifs of one or more cell adhesive molecules, said one or more amino acid sequences being
5 comprised in a peptide which comprises an amino acid sequence comprising (i) an amino acid sequence of a T cell epitope in the N-terminal region of the peptide; and (ii) another amino acid sequence comprising a B cell epitope in the C-terminal region of the peptide,
10 which positions via a linker peptide inserted between the two amino acid sequences (i) and (ii).

2. The polypeptide of claim 1, characterized in that wherein said linker peptide comprises one or more dipeptides selected from the group consisting of lysine-lysine, lysine-arginine, and arginine-
15 arginine.

3. The polypeptide of claim 1 or 2, characterized in that wherein said cell attachment motif is one or more members selected from the group consisting of peptides having amino acid sequences of SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ
20 ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, and SEQ ID NO:11.

4. The polypeptide of claim 1 or 2, characterized in that wherein said cell attachment motif is one or more cell attachment motifs of integrin family proteins.

5. The polypeptide of any one of claims 1 to 4, characterized
25 in that wherein said T cell epitope is a multiagretope type.

6. The polypeptide of any one of claims 1 to 5, characterized in that wherein said B cell epitope is of an antigenic protein causing a disease.

7. The polypeptide of claim 6, characterized in that wherein said antigenic protein is one or more members selected from the group consisting of surface protein antigens of *Streptococcus mutans* serotype C strain, HIV proteins, influenza proteins, papilloma virus proteins, ovalbumin, and Japanese cedar allergens.

8. A DNA or RNA, which codes for the polypeptide of any one of claims 1 to 7.

9. A microorganism, animal or plant, which has been introduced with the DNA of claim 8.

10. A composition, characterized in that it comprises one or more of the polypeptides of claims 1 to 7 and pharmaceutically acceptable additives.

11. The composition of claim 10, which further contains an antigenic protein.

12. A method for producing antibody, which comprises a step of either administering to living bodies or allowing them to intake the polypeptide of any one of claims 1 to 7, the DNA or RNA of claim 8, the animal, plant or microorganism of claim 9, or the composition of claim 10 or 11.

13. The method of claim 12, wherein the administration or the intake is carried out in a permucosal manner.

14. The method of claim 12 or 13, which is for preventing or treating a disease.

15. A method for enhancing the production of an antibody to an antigenic protein, characterized in that it uses the polypeptide of any one of claims 1 to 7 as an immunological adjuvant.